

COMPOSITION FOR THE PRODUCTION A REFRACTORY CERAMIC SOLID BODY, SOLID BODIES FORMED THEREFROM AND USE

PATENT CLAIMS

1. Composition for the production of a refractory ceramic moulded body which comprises at least one component containing MgO and at least one component containing CaO in a grain size of < 8 mm and has the following oxide analysis:
 - a) 50 to 90 % by weight of MgO
 - b) 8 to 40 % by weight of CaO,
 - c) 1 to 8 % by weight of Fe₂O₃,
 - d) up to 10 % by weight of others,
the sum total of a) to d) being 100 % by weight.
2. Composition according to claim 1 in which at least one CaO-containing component has a grain size of > 2 mm.
3. Composition according to claim 1 in which at least one CaO-containing component has a grain size of < 5 mm.
4. Composition according to claim 1 in which at least one MgO-containing component has a degree of purity of > 90 % by weight MgO.
5. Composition according to claim 4 in which the MgO-containing component with a degree of purity of > 90 % by weight has a grain size of < 5 mm.
6. Composition according to claim 4 in which the MgO-containing component with a degree of purity of > 90 % by weight has a grain size of < 2 mm.

7. Composition according to claim 4 in which the MgO-containing component with a degree of purity of > 90 % by weight has a grain size of < 0.3 mm.
8. Composition according to claim 1 in which the mean grain size (d_{50}) of the CaO-containing component is greater than the mean grain size (d_{50}) of the MgO-containing component with a degree of purity > 90 % by weight.
9. Composition according to claim 1 in which the grain size (d_{95}) of the CaO-containing component is greater than the grain size (d_{95}) of the MgO-containing component with a degree of purity of > 90 % by weight.
10. Composition according to claim 1 in which at least one CaO-containing component has a grain size of < 1 mm.
11. Composition according to claim 1 in which at least one CaO-containing component has a grain size of < 0.3 mm.
12. Composition according to claim 1 with an Fe_2O_3 content of > 1.5 % by weight.
13. Composition according to claim 1 with an Fe_2O_3 content of > 2 % by weight.
14. Composition according to claim 1 with a proportion of an MgO-CaO melt grain component.
15. Composition according to claim 1 in which the oxide analysis exhibits at least one of the following oxides: MnO , TiO_2 , ZrO_2 , SiO_2 .
16. Non-fired ceramic moulded body of a composition according to claim 1 and a binder.

17. Fired ceramic moulded body produced from a non-fired ceramic moulded body according to claim 16 following firing at a temperature of > 1,400 °C.
18. Moulded body according to claim 17 with a raw density of > 3 g/cm³.
19. Moulded body according to claim 17 with an open porosity of < 14 % by volume.
20. Moulded body according to claim 17 with a test value T_{0.5} according to DIN EN 993-8 (1997) of between 1,400 and 1,700 °C.
21. Use of a moulded body according to claim 17 for lining of a rotary kiln.